



Ref. Certif. No.

JPTUV-034309-M1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

LCD Monitor

Name and address of the applicant
Nom et adresse du demandeur

Top Victory Electronics (Taiwan) Co., Ltd.
10F., No. 230, Liancheng Rd.
Zhonghe City, Taipei County 23553 Taiwan

Name and address of the manufacturer
Nom et adresse du fabricant

NEC Display Solutions, Ltd.
4-13-23 Shibaura
Minato-ku, Tokyo, 108-0023 JAPAN

Name and address of the factory
Nom et adresse de l'usine

See additional page(s)

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

DC 19V; 2.1A; Class III

Trade mark (if any)
Marque de fabrique (si elle existe)

NEC

Model/type Ref.
Ref. de type

L230NW

Additional information (if necessary)
Information complémentaire (si nécessaire)

Also evaluated to IEC Guide 112 (multimedia equipment).
Re-issue of JPTUV-034309 dated 20.08.2010,
due to first modification.

A sample of the product was tested and found
to be in conformity with
Un échantillon de ce produit a été essayé et a été
considéré conforme à la

IEC 60950-1:2005
National differences see test report

As shown in the Test Report Ref. No. which forms part
of this Certificate
Comme indiqué dans le Rapport d'essais numéro de
référence qui constitue une partie de ce Certificat

11021766 002

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification



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Global Technology Assessment Center
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Date: 07.09.2010

Signature:

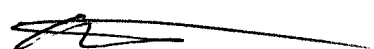
Dipl.-Ing. A. Klinker

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ul. Zlotego Smoka 9
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Poland
9. L&T Display Technology (Fujian) Ltd.
Optoelectronic Park, Rongqiao
Economic and Technological
Development Zone
Fuqing, Fujian 350301, P.R. China

Additional information (if necessary)
Information complémentaire (si nécessaire)

Date: 07.09.2010

Signature:


Dipl.-Ing. A. Klinker



Test Report issued under the responsibility of:



TEST REPORT

IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006 Information technology equipment – Safety – Part 1: General requirements

Report Reference No.: 11021766 002

Date of issue.....: 06-Sep.-2010

Total number of pages..... 7

CB/CCA Testing Laboratory: TÜV Rheinland Taiwan Ltd., Taichung Laboratory

Address.....: No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya Township, Taichung County, 428 Taiwan

Applicant's name.....: Top Victory Electronics (Taiwan) Co., Ltd.

Address.....: 10F., No. 230, Liancheng Rd., Zhonghe City, Taipei County 23553 Taiwan

Manufacturer's name: NEC Display Solutions, Ltd.

Address.....: 4-13-23 Shibaura, Minato-ku, Tokyo, 108-0023 JAPAN

Factory's name: See following page.

Address.....: See following page.

Test specification:

Standard: ☒ IEC 60950-1:2005 (2nd Edition) and/or
☒ EN 60950-1:2006 + A11:2009

Test procedure.....: CB

Non-standard test method.....: N/A

Test Report Form No.: IECEN60950_1C

Test Report Form(s) Originator: SGS Fimko Ltd

Master TRF.....: Dated 2007-06

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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

If this Test Report Form is used by non-CCA members, the CIG logo and the reference to the CCA Procedure shall be removed.

This report is not valid as a CCA Test Report unless signed by an approved CCA Testing Laboratory and appended to a CCA Test Certificate issued by an NCB in accordance with CCA

Test item description: LCD Monitor

Trade Mark: NEC

Manufacturer.....: Same as above.

Model/Type reference.....: L230NW

Ratings.....: 19 Vdc, 2.1 A

Testing procedure and testing location:	
☒ CB/CCA Testing Laboratory: Testing location/ address..... :	Refer to cover page Refer to cover page
☐ Associated CB Laboratory: Testing location/ address..... :	
Tested by (name + signature)..... : <i>Sean Usch</i> Approved by (+ signature)..... : <i>Carol Huang</i> <i>Sean Usch</i> <i>Letty</i>	
☐ Testing procedure: TMP Tested by (name + signature)..... : Approved by (+ signature)..... : Testing location/ address..... :	
☐ Testing procedure: WMT Tested by (name + signature)..... : Witnessed by (+ signature)..... : Approved by (+ signature)..... : Testing location/ address..... :	
☐ Testing procedure: SMT Tested by (name + signature)..... : Approved by (+ signature)..... : Supervised by (+ signature)..... : Testing location/ address..... :	
☐ Testing procedure: RMT Tested by (name + signature)..... : Approved by (+ signature)..... : Supervised by (+ signature)..... : Testing location/ address..... :	

Summary of testing:**Tests performed (name of test and test clause):**

- The load condition used as below during testing:
The equipment operated under maximum brightness, maximum contrast of LCD Panel with LED backlight circuit.
- The testing samples were pre-production without serial numbers.
- See following pages for test details.

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2.

Summary of compliance with National Differences:

Refer to test report No. 11021766 001.

Test item particulars	
Equipment mobility	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains	☐ pluggable equipment ☐ permanent connection ☐ detachable power supply cord ☐ non-detachable power supply cord ☒ not directly connected to the mains
Operating condition	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV ☒ other: No mains connection
Mains supply tolerance (%) or absolute mains supply values	N/A
Tested for IT power systems	☐ Yes ☒ No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	☐ Class I ☐ Class II ☒ Class III ☐ Not classified
Considered current rating (A)	N/A
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IPX0
Altitude during operation (m)	Up to 3048
Altitude of test laboratory (m)	Up to 2000
Mass of equipment (kg)	4.82 (for unit with base stand) ; 1.98 (for base stand)
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	Sep., 2010
Date(s) of performance of tests	Sep., 2010
General remarks:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF. Throughout this report a point is used as the decimal separator.	
General product information:	
Description of change(s):	

1. Additional evaluation for LED driver circuits.
2. Change base.

For the above described change(s) the following was considered to be necessary:

Change	Testing	Comments
1.	• LCC test	The maximum voltage of LED driver circuits is 67.2Vp (AC components). And it's not defined as hazardous voltage if it complies with LCC requirements. See following sub-clause and appended table for test results.
2.	• Stability test	Less than 7kg but tested by clients request. See the relevant sub-clause for test results and see photo documentation for details.

Other comments:

Factory(ies):

Refer to test report No. 11021766 001.

The manufacturer's declaration, that the samples tested represent the products from each factory, is available.

History of amendments and modifications:

Ref. No. 11021766 001, dated 17-Aug.-2010 (original test report)

Ref. No. 11021766 002, dated 06-Sep.-2010 (modification)

Attachments to this Test Report:

- Photo Documentation

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.4	Limited current circuits		P
2.4.1	General requirements	The limits of 2.4.2 were not exceeded under normal operating conditions and single fault conditions.	P
2.4.2	Limit values	See below.	P
	Frequency (Hz)	See appended table 2.4.	—
	Measured current (mA).....	See appended table 2.4.	—
	Measured voltage (V)	67.2Vp	—
	Measured circuit capacitance (nF or μ F).....	Less than 0.1 μ F.	—
2.4.3	Connection of limited current circuits to other circuits	The limits of 2.4.2 were not exceeded under normal operating conditions and single fault conditions.	P

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		P
	Angle of 10°	The equipment does not overbalance when tilted to 10 degrees in both normal and rotating condition.	P
	Test force (N)		N/A

IEC/EN 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
2.4.2	TABLE: limited current circuit measurement					P
Location		Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments
Normal condition:						
Before D801		56	28	450	70	
Component fault: R806, Q802(C-B), Q802(C-E), Q802(B-E), R808, D801, L801, C808						
Before D801		0	0	--	--	Unit shutdown
Note(s):						